

# HOME COMPUTING WEEKLY

AN AMSTRAD SPECIALIST PUBLICATION

August 27-Sept 3 1985 No 127 50p



Reviewed inside  
Ultimate's  
**NIGHTSHADE!**



plus 4 pages  
of software  
reviews

**RUPERT**

**25**  
new  
games  
and  
special  
prizes  
to  
be  
won  
in  
our  
**competition**

## Life and death Amstrad style

Amstrad have launched a new computer—the PCW8236—aimed at the small business market and simultaneously announced that the CPC604 is “well and truly dead” just five months after it was unveiled.

The PCW8236 includes a 128K computer word processor, monitor with a built-in disc drive, and printer. The package will retail for £299 and £309, the only high specs model selling the machine before Christmas, say it will be as dear skeletons by the last week of September.

The bad news for home users is that the new machine has no game playing capability and is not compatible with the CPC604 or CPC6128.

The introduction of Amstrad's CPC628 at this country after its American launch in May has been unanimously appreciated. The 128K machine has a built-in disc drive, CP/M plus and compatibility with most CPC604/6128 software and add-ons. The game system model will cost £299 and the colour monitor version £399.

From Birmingham's father Amstrad 444 in 1982, 6505, green screen, and £299 for the colour version. Both models will come with a 10 pack of software.

There are no future plans for the CPC604 which was only launched five months ago. “It's well and truly dead,” said Amstrad's managing director Alan Sugar at the official launch of the PCW8236. “It has suffered from a lack of technology,” he added.

Amstrad's aim with the PCW8236, said Alan, “was to produce a word processor/personal computer that will completely revolutionise the office environment and word processor market. Amstrad believe in giving customers what they want.”

What buyers of the CPC604 find now that their machine has been both superseded and ditched after such a short lifespan seems to be odd.

One disgruntled 444 owner contacted NCM to complain about Amstrad launching the 628 in April. “When it is now obvious the 628

was completed.”

Amstrad now seem aware about the small business user market with the same pricing and packaging strategy that has up to now brought them success in the home video market. “The new PCW8236 is not a toy or a gimmick,” asserted Mr Sugar.



The PCW8236—open for business



No fenders for the CPC6128

Creative Spark  
Daily Mosaics  
The Time Capsule

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CASM musical  
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It's here p.4



# WATCH OUT! IT'S



# DYNAMITE DAN

**94%**  
Crash  
Smash

"What makes the game is the graphics - large, witty, bizarre and beautifully animated... each screen has something remarkable, and horribly difficult puzzles... Dynamite Dan is not just another Miner surrogate and is at least as essential to your collection." *Popular Computing Weekly.*

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# HOME COMPUTING WEEKLY

August 27-September 3, 1985 No. 127

## Sophor

One of the most difficult problems when porting software is finding out how good it is.

Obviously, the first thing to do is to read the reviews. At PCW, new releases are covered very quickly. Even so, to record Deepwood's point out, there are only one, albeit momentarily, given a new two-page, or the other hand, and it is a friend's machine, but not worth the first with the new article will not?

Full marks therefore to those, the high three stars, with their new in-store computer game video. Not only is the software chart provided, but also, presumably sponsored by the publisher, a series of commercials featuring excerpts from the game themselves, so you can actually see what you're getting before you buy, without having to rely on the above errors and discrepancies which can often over-flatter in the product.

Perhaps it will also mean an end to the game companies we see which feature what has machine's screen shots on the cover too. Well done Deepwood! But keep it accurate and up to date please. S.M. (Barnes)

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M.U.D. is...



the ball of  
slices and  
matted fluff



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## NEWS

## Teaching begins at home

Home Tutor is a novel idea from Peritus Software which allows you to have the joy of receiving from home — with access to an advisory service and personal consultation.

The new computer CD module enables a month to complete and writing is multi-asking feature. Standing with vocabulary of commands, the course progresses through machine code and assembly language to physical information handling.

Not only can you add to the material in projects that come with Home Tutor but you also have an interactive reference course whereby you can re-visit the information already covered.

Peritus Tutor (Information Pack), Peritus, Gorton Rd, Market Ave, Milton Keynes, MK9 1HQ.

## The Rocky History Show

The National History Museum are raising the benefits of modern technology as they explore the geological past.

In a permanent exhibition which opens in October, the museum will be showcasing how no deposit on geological resources in aspects of our everyday life. This will be able to recover from an ordinary floor which have been dropped in half to expose their complex structure and inner work system.

By providing coloured rays, you can discover, for example, where limestone and mudstone is found in the kitchen. An extensive database bank has been set up using micro-computers linked to laser films, allowing visitors access to a wealth of information — and there's more additions to the exhibition in 1988.

British Museum (National History), Cromwell Rd, London SW7 5BD.

## Interface Upgrade

Technology Research will be launching Data Plus an upgraded Spectrum Beta Disc Interface with full file handling — and a floppy button.

This little but low cost type based program is to be rapidly transferred to floppy disc systems and means that Spectrum cassette software is fully compatible with the Beta Disc system.

The upgrading charge for existing Beta Interface users is £29.95 plus £4.80 P&P.

Technology Research, Unit 16, Central Trading Est, Sharnbrook, Wiltshire.

## MSX addition

The new HX-32 MSX computer was the star attraction of the recent Toshiba launch.

The HX-32 has 144K of memory — 80K RAM and 64K ROM — and has the added feature of a built-in word processor function. It also comprises a top multiplex keyboard, two ROM cartridges slot and an RGB output for a high resolution monitor.

Toshiba's HX-40 put in an appearance in the recent of TV's Database poll. The HX-40 can be upgraded to give all the features of the HX-32 — which will be available from October.

Toshiba, Equities Ave, Wokingham, Berkshire, Surrey.



Toshiba's new HX-32 MSX Compatible Computer

## Amstrad in the school-room

As from September, Boodie High School, Newcastle, will be the first to benefit from the new Amstrad educational network system.

The school will have 10 terminals linked up to a file-server, and printers on line with a common ring-up on the second site. The network, originally designed for mainframe computers, works on a ring file cable and up to 110 stations can be used on one ring and several rings can then be linked by gateway.

What a system for schools like Boodie High is that they can network from existing micro-computers and share expensive disc and printer resources.



People at Boodie High using the Amstrad network

## Points of view

To support the Printed Education scheme, Tecondata has released Micro Viewdata — an off-line companion for the BBC store.

Users will be able to create viewpoint frames, display them as if from a Viewdata screen and explore all the features of a Printed system — screen layout, routing structures and page/frame numbering.

Micro Viewdata costs £11.00, but UK schools pay the reduced price of £10.84.

Tecondata, 3 Gresham St, Leamington, CV11 3JG.

## Eastern Promise

It does not matter that the major local computer buyers are said to be small. Plymouth-based Comtec, an independent of sorts, has made it.

However, the company was made of everything that is and has been. Comtec and its staff have merged to form the first time, so called.

Comtec, Ltd, is a registered company with a view to the future. The company is now a public company, and is now a public company. The company is now a public company, and is now a public company.

East of England Enterprises, 30 West Newbridge, Essex, Malden, Essex, Malden.

## Write-on

Whether writing planning, notes, lists, and more, you will be completing the school manuscript. It is a world of computer-based, only, no, only you and your own ideas.

Microview is a full-screen program, full-screened, so that you are only and only you, and you are only and only you, and you are only and only you.

Available through most video outlets. Serialized price, £10.95.

Innovative Software, 41 Walter Rd, Swanton, W. Gloucester.



Tecondata's Micro Viewdata packs

M.V.D. is...



"the host in the machine"

01-606 1173



© 1985 Tecondata Ltd.

Today's releases, software in the pipeline, software on the drawing board — all bound for the home micro

# RELEASES

## Shorts

The woods are full of bones this week. Kumbi, the Sylvanian Sealine character who was kidnapped from his breakfast will soon be cutting his way through the micro-forest in an adventure from Ocean and Robin Hood the Sherwood Forest-based band with a soft spot for the poem, will be bounding through the leafy glades in Adventure International's Robin of Sherwood, The Touchstone of Sherwood.

Cosmo snugged up the rights to Robin Hood Part II and the game is expected to be available for the Spectrum £27.95 in September followed by C64 and Amstrad versions £24.95 a month later.

Kumbi nicknamed affectionately as "the mean killing machine" is a Vietnam veteran who has to fight his way through the jungles of South East Asia to rescue American prisoners of war. Cosmo's director Joe Woods, said, "The storyline provides enormous scope for computer graphic resources — scenes like 'the three of us' when Kumbi-dragon over a mud pit will make a superb arcade sequence." Robin of Sherwood — Touchstone of Sherwood is based on the TV series of the same name and is available for the Spectrum C64 and Amstrad versions in a graphic of nature £29.95 and for the BBC and Electron in a text only adventure £27.95.

Interceptor takes us back to the time when wood was all the rage with three adventures called Wooded. You take the part of the Cobra-champion who has to fight it out single handed with the Bowser's dog companion to decide the future for the Sherwood. Wooded, set in the night and makes of the first century AD is available for the Amstrad and C64 £24.95.

Cuba, Florida's latest release for the C64 and Spectrum stars this in the Western film in a land called Evil. To prove your worthiness to lead the populace you have to find the 34 objects scattered within the maze.

The state of London's streets is the basis of a text adventure for the Spectrum from Frilly-wink £24.95 or £24.75 for the microwave version. Quasmod is an adventure to be five of golden and dragons, London Adventure incorporates over a



hundred of the capital's lost items for those who want a true vision in their micro-exploration.

Wood of the Kings, the text adventure that uses such mystical scenes as Sherwood and the Robin Hood to parody Tolkien famous trilogy is to be available in an expanded version from September with many new locations and graphic scenes. To be released on September 16th for Spectrum and BBC £27.95. Wood of The Kings promises to revive the magic of the disappearing C-7's.

Talkies have announced their first career into text adventure with graphics this summer with the release of Jack of Sherwood on September 13, typically available on the Amstrad, £24.95. C64 and Spectrum versions will follow. On the planet Megra, evil is everywhere and you are on the task of finding the hyper-metallurgic substances from the

mine of Darken. Alan Swain can add Chop Easy to their gaming menu from August 26th when English Software release their Kang Fu game with the following magnifying, interactive player options: "Bow" strongest player and "surprise" hazards of the score per victory. Chop Easy costs £24.95 and £22.95 (text) and is compatible with the Amstrad £24.95/£24.95 computers each £18.95 in text.

A line of conversions for the Amstrad this week including Riverside from Leisure Systems (C64 £24 and £22.95 (text) and 4 New To A, Island's first edition which in the new edition has the four players a different color. A New To A £24 (text) £22.95 and £22.95 (text).

Granite has announced three Amstrad conversions — Project Beta, a 256 screen made adventure, Harry's a boxing simulation and Wizard Mandy Mandy. All will start at £18.95.



## SOFTWARE

## Nightshade

It's always difficult to create a new Ultimate game, people's expectations of them can be so high that it's easy to feel disappointed if the new game is anything less than world-shattering. Not only do little ones have to compete with all the other software houses around, they also have their own expectations to contend with. *Aladdin II* came in for some criticism, not because it was a poor game, but because it only improved marginally upon the format of *Knights Lore*.

So, what of *Nightshade* and *Falconer II*? It's to be hoped, I don't think that *Nightshade* is an immediately addictive as *Knights Lore*, but after playing it for a short while, the game does work its way under your skin, and the 'just-one-more' type syndrome takes hold.

The details given to you for playing the game are, as always, sparse. *Nightshade* is the name of a village that has been overtaken by the forces of darkness. Players have swept the village and its inhabitants have been turned into foul creatures. Your task is to enter the village from the quiet land up to it, but it is utterly up to you to determine how to do this.

*Falconer II* releases the slightly overhead 3D perspective of *Knights Lore* and *Aladdin II*, but rather than moving from one fixed screen to another, in *Nightshade* the screen and buildings of the village scroll past you — almost like a truly 3D version of the town at *Dun Bannath*. This effect is very impressive — there are no this-line vector graphics here. Fully drawn and detailed buildings scroll smoothly across the screen without a trace of flicker. If your character passes behind a building, then the walls vanish so as not to obscure your view, and the bases, doors of the buildings are marked to allow you to maintain some sense of perspective.

*Falconer II* is, by the way, in colour. This obviously makes the screen display more attractive, but the coloured attributes

problems do crop up quite a lot and make the graphics look a little less city than the two-colour displays of *KL/AL*.

As I mentioned earlier, *Nightshade* isn't as immediately addictive as *KL/AL*. This is because there are some of the obstacles which require up-to-second thinking to get through, and which grab your attention from the wheel go on these two earlier games. In *Nightshade* I found myself wandering the village streets for quite a while before I even figured out how to kill the monsters that kept chasing me up and down the streets.

The variety of animated monsters in this game is, however, greater than in *KL/AL*, and they have more freedom of movement in the game too. Some of them are very nicely designed, and they move just a fraction slower than the *Sabermans* (yes, it's that again). So some strange ones can occur as you see the *Sabermans* being chased along the village streets by creatures with outstretched arms and rolling eyes like something out of a *Murder*

*Sandwich* cartoon!

Floating around steady tones of the buildings are archbishops, and if you collect these you can use them to combat the demonic rotten monsters of the village. There are also a number of objects lying around the town that can be collected and (I suspect) used against the major league monsters responsible for these demonic goings on.

The status display at the bottom of the screen contains a number of figures which, I think, represent the *Monsters In Charge* that you must defeat in order to save the village. Then again, I could be totally wrong. *Ultimate* don't give anything away in the game's instructions, and I've just been guessing along trying to figure out what's happening without getting myself killed.

It will probably take a while to witness the depths of this game because there are ups, and only time will tell if it's as overwhelmingly addictive as *Knights Lore*. But even if *Nightshade* isn't *Ultimate*'s greatest game, it's still worth about as much of the competition. C.J.



Price £8.95

Publisher: Ultimate Play The Game

Advertiser: The Crown, Ability de la Zeeuw, Loos

SPECTRUM







### Red Arrow

I'm always sceptical when games are released for a wide range of machines — all at the same time. According to the packaging, "it's the most exciting, full colour flight simulation ever written... I highly disagree."

You take to the cockpit of a Harvard plane as part of the famous Red Arrow display team. You must play your role as pilot now by keeping information as the team loops and comes around the screen display in a familiar left spin, with the instrument panel at the bottom and the window view above. The detailed manual shows which formation patterns to follow — although not what the control keys are.

So, what is my complaint? The program does not in any way feel like flying a Hawk. Graphics are simple, and move slowly by character speed. There is no great speed in the "barnstorm routine" mentioned in the manual, for example, to illustrate movement when the player is less perpendicular to the ground, the screen flickers while the graphics remain stationary. Conversely, without apparent reason, the middle of the well defined plane in front of you will disappear, although this strangely does not affect its performance! And why is flying suddenly so quiet?

The ground and sky are truly beautiful — but a cloud is hidden in sight. The game is generally pretty interesting too, it might have been good two years ago, but now would only be an adequate budget game, it's worth over-priced and slightly amateur. **P.S.**

Peter D. H.

Publisher: Database Software

Address: Europa Hse, 44 Chertsey Rd, Wand Grove, Stockport

**SPECTRUM**



### Music Master

Life's like that, you think you've got the best bit of software around for your particular purposes, and suddenly another product appears which changes your ideas.

Until I covered this program, I thought that the Amstruc music package was all I would ever need. When using I was interestedly enough, this program fills and enhances the gaps left by the other products. It is not for the serious composer intent on creating an accurate score and working notes.

Instead, Music Master converts your C64 into a synthesiser with a powerful three voice sequencer. Rather than entering notes in accurate note values, a real time display is provided allowing a certain amount of feeling to be put into the notes.

The program has two main modes, immediate playing mode and the sequencer. In immediate mode you can use the C64 as a keyboard and simply move about. All operations are controlled by menu screens and two help screens enable you to get about in immediate mode. You can play any of the three voices in any combination. The voices, which are active, are played in stereo independently. This is the only really poor feature of the system. A simple polyphonic option would have been handy.

Each voice has its own range enabling you to alter all features of the waveform, frequency,

filtering etc. Special effects are sorted via short lists menu and a filter menu. The special effects menu allows you to set up stereo modulation and synchronisation between voices giving some really bizarre sounds. If you want a really amazing sound which you must use again, there is the option of creating pre-set sounds which can be saved on tape or disc. If you want to impress your friends, there are 17 pre-set rhythms over which you can play your own notes on your heart out Phil Collins.

If you want to create and replay music, the sequencer is the way to do it. You choose two, you sample three part music pieces — and really amazing part friends. A word processor type approach is adopted enabling you to enter and edit music. Sequences can be repeated making life fun. The music is stored in terms of beats rather than accurate notes. This means that you can use slightly heightened or shortened notes to give expression. The more can be saved for future use.

The disc was beating with demo music pieces, some to a very high standard. One large piece called "Long along a star" reminded me of the days when I used to play jazz at the local South Lakes — quite true, joking really. The instruction booklet is detailed and has a number of examples to enable you to get to grips with the package.

This is a first class package which operates beautifully and is tremendous fun to use. At the price, it offers a genuine budget alternative to the more expensive 48KHz based systems. **A.W.**

Price: £17.95 (imported)  
£15.95 (UK)

Publisher: Spectrum

Address: Winchester Hse, Cottingham Rd, Woodhouse, Harrogate, North H.A. TS14

**C64**



### Flipped



### Hooked



### Keen



### Yawning



### Comatose



### Fig Forth

There comes a time in every programmer's life when he begins to wonder what his beloved Basic, Pascal, C or even the Assembly language for their next challenge whereas others may decide to test their skills on a second high level language. With the release of Fig Forth from Amsoft, Amsoft users now have the opportunity to take the second option.

Forth is a good language to choose as your second language as it combines many of the features of a high level language with the speed of machine code.

One of the main things about Forth is its flexibility, it is a kind of do-it-yourself language. The Amsoft version of Fig Forth consists of a nucleus dictionary of approximately 340 words. Each of these words will perform a specific task, the idea behind Forth is that the user combines specific sequences of these words to perform a task. Having created several of these new words they too can be combined to give a further word which carries out the complete sequence of tasks.

Forth words can be defined directly from the keyboard or in command mode or via a screen editor. The screen editor allows the user to enter his definitions as up to 11 screens of source code. These are then stored to what they call a RAM disc, individual screens can be listed and edited until the program functions as expected.

The documentation supplied is reasonably a reference guide but does contain a short section for beginners. The Amsoft version of Fig Forth is a very comprehensive implementation of the Forth language. **J.B.**

Price £24.95

Publisher: Amsoft (Amssoft)

Address: Ennwood Hts, 168 Kings Rd, Brentwood, Essex CM14 4BT



### Use It

You don't often come across a real time clock, a calculator and word-producing package all in one package. For the Amsoft, we find every day at least five to six just this and often fully comfortable features for all three at its price. Taking a full eight months to load, the program features some very nice icons like graphics icons like as that they look rather the same but unfortunately are not used for anything. The software is not just to enhance the screen display.

The clock offers a choice of digital or analogue faces, stopwatch, countdown, and alarm facilities but, unfortunately, the real time clock does not stretch to a constant real-time display making the program of little practical use.

The calculator is pretty but not that functional. Even with binary and hexadecimal calculation facilities, the lack of convenience is regrettable.

The graph package is better than the other two and more useful. Up to 256 lines (values) it would have been a shame for the manual. Figures can be displayed as pie charts, bar graphs or bar charts, and there are comprehensive editing features. As with most graph packages though, without the ability to change the contents to a printer the package loses most of its value.

If the package could have been run concurrently while another program (say a word processor) was in operation — rather like the IBM program, *Useful* — then it would be of great value and it would have recommended it. As it does not, I wouldn't use it and can only think of it as a novelty. **C.G.**

Price £5.95

Publisher: Bubble Box Software

Address: 87 High St, Tonbridge, Kent TN10 1EX



### Castle Assault

Castle Assault at first can be described as a platform game where you must gain access to four floors using ladders.

There are many obstacles to make your journey difficult, sometimes crude guard the floor which you have to jump to avoid. Your timing here has to be good because the odds are also jumping up and down.

On reaching the top floor and collecting the gold you go to the next screen where you have to attack and birds appear on each floor ready to pick you to death. As if this was not enough, you have to avoid falling ladders while trying to climb up the ladders.

This is a very interesting game. The control keys are well thought which makes them easy to use. One thing I liked about it is the absence of colour clash, which means your map does not change colour when he is on a coloured background. I do feel the sound quality could have been better, but what if there is any advantage.

One feature about this game which annoyed me was that you have to climb the ladder right to the top before you can jump off which slows the game down somewhat.

I am surprised that this quality game is being marketed at such a low price. Maybe this reflects the state of the industry. If you have a quest for gold then this game will fulfil it. **M.B.**

Price £2.95

Publisher: Blue Ribbon Software

Address: Silver St, Denham, South Yorkshire



### Nightmare Maze

Ever had a nightmare where evil monsters are chasing you, you are scared and trying to run from them, and the only safety is making up? Well, Nightmare Maze has brought it to life.

You are Sleepy Joe, who must collect 16 keys from a maze while avoiding the monsters. Because of an editor where the maze appears to be in three dimensions. Moving around adds to the difficulty of the game. To conclude a smooth journey where you must shoot your way through which you want to pass. This is not very easy when you have a growing monster hand on your heels.

The task of collecting keys is not very subtle as they appear only one at a time. Every so often a can of coffee appears in the maze, if you drink this it will wake you up and the monster will disappear for a while. This gives you extra time to collect the keys.

The only thing which annoyed me was that if you lose a life you also lose all the keys and you have to start all over again. If you manage to collect all the keys then the door of the maze will open and you can escape only to find yourself in an even harder maze with a new set of monsters.

The graphics are good although the game is a clone of an old classic, it is a decent value for money. This game takes over what nightmares are. **M.B.**

Price £2.95

Publisher: Blue Ribbon Software

Address: Silver St, Denham, South Yorkshire

AMSTRAD



AMSTRAD



ELECTRON



ELECTRON





## Music Maker

Just recently, the music scene for the Beeb has been boiling up with the release of numerous books, a couple of keyboards, synthesizers and lots of firm-ware and software. What makes this latest offering from Paul Spearin so special is its price. It costs only 10c.

The package consists of two sections: the sound and the player. The sound is basically an envelope diagram in which the amplitude and the pitch are represented graphically. The parameters can be changed and the effects heard immediately. You can store 16 envelopes in memory at once which may be played on the keyboard. The sound is very easy to use and is as good as any other similar program on the market.

The player is a rather sophisticated sequencer. The BBC keyboard behaves as the music keyboard and up to three notes may be played at once. By selecting record mode, you can store away a tune in real time and the notes are printed on a scrolling view at the top part of the screen.

A musician may be tempted for testing but if you do make a mistake, you may edit the program using a simple line editor. Having to use the Beeb's keyboard to play the music, mistakes are bound to be made and unfortunately, the editor is fiddly and time consuming.

Overall, the package is easy to use and represents remarkable value for money. If only editing could be done graphically (like the real music system by Robert Lopez) as well as in real time, then this package would be unbeatable. **S.S.**

Price: £5.00

Publisher: Paul

Address: PO Box 112, Brighton BN1 1AV



## Queen Tulla

Eight Day Software have got themselves a good reputation for their high-priced, well thought out, quality text adventures. Their next, again from price, is an interesting scenario packed with interesting puzzles and commands. Queen Tulla is no a similar vein to their previous offerings.

Trapped on a wrecked spacecraft you must leave the ship and then travel the galaxy fighting the evil Empire for the sake of the Federation, (no name of Star Wars clearly). The adventure starts rather differently with you as derivate.

You're in a damaged air battle flying for hours and only have a few moves before you suffocate. The solution is fairly simple but the game has already started your puzzle racing. You have solved a puzzle, you will start to become tired to the adventure and you appreciate the danger involved.

The adventure mechanism is obviously only as good as the Quill — which is good but fairly basic. Only two word combinations are allowed and the screen display is fairly limited. The actual adventure content is very good and pretty suitable as adventures go. There were several grammatical and spelling mistakes, but as an adventure so full of text, that can be forgiven.

I liked the use of the second side of the tape to give the storyline of the adventure, from on how to play the adventure and details of Eight Day's other adventure games. The adventure was challenging without being too hard — let's say it's an intermediate game — and at the given price it represents extremely good value. **C.C.**

Price: £2.50

Publisher: Eight Day Software

Address: 10 Finchley Avenue, Wembley, LA8 7UH



## Crystal Quest

To start this has got to be the cheapest piece of software I've seen. At 99c it really does live up to its name of Pocket Money Software. The game is a text only adventure and although a message is given to resolve any suspense, on layout and feel suggests that it was created using the Quill.

The scenario isn't amazingly novel but is sufficiently different to be attractive. You are faced with working for three crystals which can be used by enemies to create a route to control a planet which is devastating the earth. You start in a space ship clearly indicating a degree of interstellar travel.

The author goes back away with the scenario being short on clues and quite generous on problems. This, unfortunately, is aggravated by some basic errors at programming. The operation PUSH BUTTON, for example, works in one location but results in a response no correspondence in another. Another fault, and not uncommon, lies in that objects are described in room descriptions but cannot be taken or used. That, of course, is due to poor attention to detail.

The atmosphere generated is good with quite detailed descriptions and a futuristic character from the space voyage theme. It used for time-made sense that the computer often use that helpful. Despite my reservations, this is a tricky and interesting game which, at the price, is excellent value. Try it, even if you don't like it the money you have is hardly lost. **A.W.**

Price: 99c

Publisher: Central Software

Address: 80 Chichester Ave, 150 Regent St, London, W1R 3PA



## Cage 'n' Rubber

This game has a slightly unusual look to it — it looks rather slow and the graphics are not very sophisticated. The mechanics involve quite well, but naturally, this appears to be lying down when you move horizontally, which looks a very odd! However, this doesn't prevent you from enjoying the game. In fact, it is a value for money that many would not expect expensive producers.

You can act as a robber. Light Future Learning, who is also the publisher of the game, has a technical company building the cage are not all your fault, but fortunately they are not very intelligent and you should be able to reach them. Unless you are unlucky enough to jump into one as you escape from a hit.

There are a few objects in cages and puzzles in order, to help you to reach all the diamonds for example, you have to find the combination to the safe and the key to the roof. You also have to take the diamonds back to your magazine, a slightly tedious procedure as the puzzle are finished on the ground outside the building than they are within it.

The levels of difficulty determine the speed at which the game runs. If you select the hardest level, the fastest, in a short time the programmer didn't include a few more lines of code to prove there was a more logical order. But despite such minor quibbles, this is as good a graphics adventure as you could expect to find at this price level. **M.N.**

Price: £2.99

Publisher: Atlanta Gold

Address: 15 Preston Street, London N1 6PP

BBC



AMSTRAD



SPECTRUM



C64



## F I R M W A R E

## Dorrie Reader delved into Watford Electronics new DDFS and filed this glowing report

Like many other Dorrie owners I took the opportunity of the recent Acorn User Show to upgrade my system and move onto discs. From 0.5 discs I have benefited dramatically during the last year and the choice of new DDFS gives me considerable scope with the increasing advantages of the user base meant the time has come.

That, like it was said, The real fun with upgrading is disc cover when you have to make a decision about the Disc Filing System. Problems with Acorn's own DDFS are quite well known by now — as is how the R211 floppy disc controller is too expensive based on price and consequently many in possession of the R211 chip have ditched it. Other companies rushed in to offer alternative DDFS support. Watford Electronics being one of the first.

Of course, the further you get from the Acorn "standard" the more problems may arise with compatibility. Yet the malpractice of the Acorn DDFS range density only, a maximum of 10 files per catalogue and a shortage of possible subfiles was even recognised by Acorn whose DDFS in the new R4000 (the 1770) adds features such as compression, a verifier and a file shifter into DDFS.

So why the need for Double Density? Apart from the convenience and advantage, the main advantage is the additional disc space — not twice the information per disc as you might expect, but almost 60%-65% more. Watford have built here on their good alternative to the Acorn DDFS and their DDFS is based on the 1750 chip.

Fitting is reasonably straightforward. The package comes with four chips, a double density board, installation details and a 102 page manual (in fact, the Watford DDFS manual with a few page addendum covering the DDFS) On seven 4 boards and above it doesn't just be a matter of replacing chips and checking that a link is cut, since 1-3 boards require rather more work but shouldn't be beyond the capabilities of a reasonably competent person.

However, if you've no experi-

ence of fitting chips or rigs, if you don't find too confident then you're probably best going to a dealer for the fitting.

I thought it would be easy enough. Sadly the fitting instructions, to say the least, a little clumsy and I ran into a problem. For some reason my main four board had a strange connecting rail that hung up the DDFS. The show was still on so I rushed back to get some advice from Watford — they were unable to help but luckily the good folk at Salsbery Technology were doing repairs so they saved Dorrie going out some light-bulbs each about not having the correct Salsbery DDFS. My main four had the DDFS up and running.

The DDFS is remarkably like the standard Watford DDFS. It offers an option of write or display density as well as 11 or 60 files, selectable at booting, it defaults to single density on a hard run, allowing faster booting of the R4000 across 4 processors and other software.

It is highly compatible for all other 31 file systems but offers these extra:

New file commands: \*HELP SPACE and \*HELP FILES returns the amount of free space on a file (80 track double density offers up to 1791K, amount of a usual 240K) and information on any open file. \*MOVE is a \*COPY like option which now demands confirmation before action. \*WILDAD and \*WILDIR allow selection of machine code to defined load addresses. \*WORK is a useful tool for programmers as it allows a working name, to programs with different version numbers can be saved. \*FIDY does any open file on disc rather like the new Acorn DDFS. \*CLOSE \*RESET takes you into a disc control menu which really is hard to read on a TR 40 column in block 0.

Finally, 40 track discs can be read and written on to 80 track discs and an OSARGS will convert to avoid clashes with hardware such as the Aris board.

General improvements are also worth an evidence. Advances in single density have been usual and the drive is now

retained through a self check. The compatibility with Ecosix is also improved so that the DDFS will run the new Acorn level 3 file server and release systems.

What is most impressive, though, is the way the DDFS avoids most compatibility problems through a very extensive R211 software emulator. Nearly all single density runs with the (possible exception being The Hobbit and Doc Doctor) and, normally, because of the current vagas for software protection that relies on addition of the R211 it will probably be more compatible than the new Acorn 1750 DDFS — the protection is used in some Acorn's products too.

To sum up, this is a very good standard DDFS. There is nothing about it that demands your unqualified support but lots of exciting extra features mean it has no serious rivals. Quicker than the Watford DDFS, it offers a range of options and commands that make life reasonably easy for the disc user (over the first time like not).

As to effect on the computer field, your field decision will probably depend on how your work and the operation of your commands and format system file standardisation.

Surprisingly similar to the Virgin DDFS it has a competitive price and really has only one area that could be improved. The manual is poor and the fitting documentation inadequate.

Watford also sell for 65.95 a very useful book (Myracon of the Dorrie & DDFS) reviewed which they suggest as vital for someone contemplating purchasing a disc system. It is clear, well written and should be included as the Watford DDFS and DDFS kit — to take one more step, you could save an cost in terms of frustration if you use the book's DDFS fitting instructions!

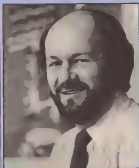
Price: £79 plus 65.95 for DDFS. Normally Upgrade from DDFS 140

Supplier: Watford Electronics

Address: 283 High Street, Watford WD6 2AN



## TIME CAPSULE



**This week it's the turn of Creative Sparks to provide our Time Capsule subject and their Sandy Mackenzie fits the bill nicely**

**I**t looks like we are going to have to increase the size of our time capsules if this selection from Sandy Mackenzie is anything to go by. He wants to include eight software packages and all the usual hardware, but more of this later.

Sandy is the Publishing Manager for Home Products at Thorn EMI, the owners of software house Creative Sparks and publishers of Spiritibus, a range of budget games which is being expanded at a week by week basis as we speak at the moment. Sandy has been with Thorn EMI for a number of years now, having started with the video and audio area. He soon moved on to software when the company were ready to start producing games for the Atari machines.

They were producing games for the Colecos Console and for the 400 and 800 models. For about two years until the parent company decided that they were going to stop investment in this area. It was due to this decision that Sandy did enter the area of home computers and started to get to know the Home Computer scene more intimately. He was soon fully involved with the whole range of activities from the purchasing of titles to program development and then marketing.

I queried Sandy about the early days of Thorn EMI's involvement and he explained that there was a time when 40 programmers were employed at the gate of the Atlantic producing games concepts and ideas for customers in the USA. These were sold as royalties for the Atari machines and were very successful for a time until, as he put it, "the bubble burst".

This led to the formation of a business comprising software divisions in the States and the UK side of the business started to move towards the area too.

"During last autumn we started to move all our software development out of house and that is the situation that we will maintain today. The Creative Sparks titles are all commissioned from third party programmers using teams and the Spiritibus range are all submitted programs, some from smaller houses and others from individuals."

Sandy has two computers at home, a Spectrum and a C64. "I have to fight my two boys for the time to use them", he claims, but it is no surprise therefore that his first choice for the capsule is the Spectrum.

The Spectrum really opened up the market here in the UK and Sandy increased the number of computer owning homes. The real breakthrough was the memory on board and the price. We now know that there are without doubtbacks to the product, its noisy little keyboard, the colour window deficiencies and the terrible sound, but at the time of its release none of these were apparent."

He wanted to include whether computer in the hardware section and it is no surprise to find that he names the machines that made Thorn EMI's software division a force to be reckoned. "The Atari was always an interesting machine, far ahead of its time. As far as I'm concerned it is still far superior to the C64. It was simply a matter of marketing misfortune — Commodore got it right and Atari got it wrong."

From the hardware, our attention turned to software and it was here that the real fun in classic video time capsule became apparent. "Nearly all





Rompage's Formula I and II (jystika)

the software that I value particularly in America and I have no apologies for that. The first is for the 1024 machine but can be described as home software as that is where it is used most. Microsoft's Sublight's Flight Simulator is THE program for me. Every businessman has a wife and it really is just like the real thing."

"Infocom's adventures are superb, especially Zork I and II. They would have to be included in any selection. From the software we go to the earliest of games, Pong. No one really knows who developed the game but it is credited to Norman Bushnell the founder of Atari."

"The new software to be crafted into the capsule came from Japan. "I cannot leave our Pacific. As far as the industry is concerned the Japanese ruled the world for a period of two or three years with this game." The first platform game also deserves a place according to Sandy. "The game was before Jet Set Willy too, Master Blaster was the first of a whole new genre."

Frantically trying to find more space for all these programs we think our lucky stars that it is still not sold hardware, at least you can squish and squeeze a little. Sandy, completely unimpressed, is still reliving his games. "The first software top should be included. The Pacball Connection Set was just that and great fun it is."

"As far as multi-player

games go there has to be space for Black from Electronic Arts. This is the nearest game to the traditional board game and has all the elements that make such games addictive. It is all about people really and involves trading, bargaining, exploration and empire building."

"My final selection is one of our own products and I have no qualms about selecting Macbeth. As far as I'm concerned it is one of the best packages ever put together for a home computer. The depth of research involved was vital to its success and it really shined in the game." Whilst Sandy took a breath and a drink of coffee, I managed to close the lid on the software selection and we agreed to look at peripherals.

"The peripheral that has meant more to the most users has to be the joystick. There are so many to choose from that selection is difficult but I would include the Rompage micro joystick such as the current Formula I."

"After that life is more difficult. I would also include the Mouse Pad as a simple to use device and it really gets both going and is one way that the computer can be used to enhance creativity. As with all products of this type the software is vital and this part of the package is very very for children to play to."

Sandy admitted that he had no clear view on books as he hadn't read that many. "The best for beginners has to be

Illustrated BASIC with all its cartoons. Apart from that the Rodney Zak's books are the only other noteworthy titles that I am familiar with." It looks as though we are going to have to make some kind of award to the authors of these books, they seem to have been mentioned in every Time Capsule interview that we have done!

Having packed and sealed the Time Capsule for another week we then turned to crystal ball gazing and speculation as to what the future holds for the industry. Sandy admitted that

he found the ball game murky at the moment. "I cannot believe that there will ever again be a single machine as successful as the Spectrum. Although I have a good product with them using computers and the Argon FI is a good business machine which is coming down to a price which may attract the home user."

"What we really need is some type of standardisation and then a real price/performance calculation can be made. I have to admit that our programmers are getting very excited about the Commodore Amiga and the Atari 50 but we will have to see."

"The open system used on the Macintosh is a step in the right direction but I have the feeling that it is just a step on the path to somewhere else. Games won't go away, they will get better and more sophisticated but I can't see them becoming a mass market like records. The computer at the home is still a solution looking for a problem, the man at the street just doesn't know what to do with one."

"The area that is not being allowed to take off is communications. It can be used to make contact and send letters. Electronic mail is vital for the home but is just too expensive at the moment because it is meant to appeal to the business user. Perhaps when it becomes cheaper this whole area will open up tremendously."





[illegible]



```

66 GOTO25
67 REM
68 PRINT"IN MUTANT HTRAC IN "
69 PRINT"IS HAVING A LOT OF BAD LUCK,HE'S BEEN"
70 PRINT"THROWN ON A PLANET POPULATED BY GIANT MUTANT INSECT."
71 PRINT
72 PRINT"LUCKILY,THE CREATURES ARE EATABLE BUT TO CATCH ONE FRED MUST
73 PRINT"GET CLOSE ENOUGH TO KILL IT WITH HIS DEADLY LIGHTNING BOLT"
74 PRINT"WITHOUT GETTING EATENHIMSELF."
75 GOSUBS
76 PRINT"OK"
77 PRINT"FORING A LIGHTNING BOLT TAKES 30 SHOTS OF FRED'S ENERGY,OK?"
78 PRINT"ENERGY IS MEASURED EACH MUTANT KILLED REPAIRS POINTS ARE SCORED."
79 PRINT"RED MUST KILL QUICKLY ENOUGH HIS ENERGY LE DROPS CONSTANTLY."
80 PRINT"THE SCORE IS SHOWN AT THE TOP LEFT OF THE SCREEN,THE ENERGY"
81 PRINT"REPAIRING AT THE TOP RIGHT,IF FRED RUNS OUTOF ENERGY HE DIES."
82 GOSUBS PRINT"OK"
83 PRINT"USE YOUR JOYSTICK TO MOVE FRED UP OR DOWN."
84 PRINT"PRESSING THE FIRE BUTTON WILL RELEASE A LIGHTNING BOLT,FORING"
85 PRINT"CONTINUES AS LONG AS THE BUTTON IS HELD DOWN,SO BE CAREFUL,NOT"
86 PRINT"TO RUN OUT OF ENERGY. EACH LIGHTNING BOLT HAS A RANGE OF ABOUT"
87 PRINT"ONE-THIRD THE DISTANCEACROSS THE SCREEN."
88 GOSUBS RETURN
89 REM
90 PRINT"*****PRESS SHIFT KEY."
91 FORI=1TO1000 NEXT I
92 PRINT"*****PRESS SHIFT KEY."
93 FORI=1TO1000 NEXT I
94 IFPEEK(632)=8THEN$9
95 RETURN

```

# FORTHCOMING ATTRACTIONS-

*More game, more graphics, giving  
more enjoyment than ever before  
on the Spectrum*

**MIKRO-Plus**

# RADIO MESSAGE



Andrew Bird had a spare few seconds the other day and our programming "whizz kid" produced yet another super Spectrum game.

**Traffic Message** is a combination of words and strategy games which will have your fingers moving and your hair falling out as you try to get your message to the concrete end.

The purpose is to relay a secret coded radio message from the temporary country MURK to CHIPS (Specman). (Top to bottom of screen) This must be done by constantly changing the transmitting and receiving keys and changing the beam off a patrol ship sailing due east.

Should your team cross the path of an Aflac duck, the mission will have been a failure.

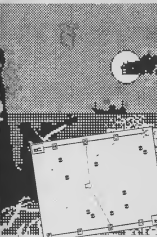
1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Figure 1 is a schematic representation of the experimental design. It shows a sequence of events: a subject is presented with a stimulus (a word), then a response is generated (a word), and finally, the response is evaluated (a word). The response is then used as the stimulus for the next trial.

1-800	attitude	adventures etc.
\$60-\$90	screen display	is not up for game
\$100-\$120	mean loop of game	
\$200-\$300	new character	
\$400-\$600	final chapter	
\$700-\$1,000	magnificent	
\$1,000-\$1,500	attention	
\$1,500-\$2,000	in-depth sound	

1000

[illegible][illegible]



```

220 PLOT 4,150: DRAW 0,10: DRAW 24,0: DRAW 0
  -150: DRAW -24,0
230 PLOT 220,4: DRAW 0,10: DRAW 24,0: DRAW 0
  -150: DRAW -24,0
235 PRINT AT 1,1: PAPER 4:"CD"AT 30,27:"CD"
236 FOR #=1 TO 30: PRINT AT #,1:PRINT: INK 1
  : "E" : NEXT #
240 LET #=1: LET #1R=22624
250 FOR #=2 TO 30: FOR #=2 TO 31
260 IF #1R=15,0:75 THEN LET #1R=#1R+15: LE
  T #=1: PEEK #1R,75
270 LET #1R=#1R+15: NEXT #
280 INK 7: PEEK 22640,0
290 LET #1R: LET #2R
300 REM PEEK 22640
310 FOR #=2 TO 30
320 PLOT 1+4,70: DRAW 4,-4: DRAW -4,-4: DRAW
  -10,0: DRAW 0,0: DRAW 7,1
330 PRINT AT 1,1: PAPER 4:"CD"AT 30,27:"CD"
340 IF PEEK 22640=0 OR PEEK 22640=1 THEN
  GO TO 320
350 LET #1R=PEEK 22640-44
360 IF PEEK 22640=0 OR PEEK 22640=1 THEN
  GO TO 320
370 PLOT #1R+100,150: DRAW 1-#1R+100,-40
  PLOT 1+4,80: DRAW #1R+100-1,-40
380 FOR #=2 TO 30: IF PEEK #1R+75 THEN GO
  TO 320
390 NEXT #
4100 STOP :END,00
  
```

```

5110 PRINT AT 1,1: PAPER 4:"CD"AT 30,27:"CD"
5120 PLOT OVER 1+1,150+4,100: DRAW OVER 1
  -1-100,100: DRAW OVER 1+1+4,80: DRAW OV
  ER 1+1+2,100-1,-40
5130 PLOT OVER 1+1+4,70: DRAW OVER 1+1,-4
  DRAW OVER 1+1-4,-4: DRAW OVER 1+1-10,10: DRAW
  OVER 1+1,0: DRAW OVER 1+1,1
5140 NEXT 1
5150 REM END ROUTINE
5160 FOR #=1 TO 10
5170 PEEK #10,70: NEXT 4
5180 PRINT AT 1,1: PAPER 4: FLASH 1:" WELL 0
  ONE"
5190 PRINT AT 10,7: INK 0:"YOU HAVE ACHIEVED
  IT 10,7:"YOUR OBJECTIVE"
5200 FOR #=1 TO 200: STEP 5: PEEK 22604,220-4:
  LET #1R=22600: NEXT 4
5210 PRINT AT 17,0: INK 0:"PRESS ANY KEY FOR
  ANOTHER GO"
5220 GO TO 2000
5230 REM Load routine
5240 PEEK #10,300
5250 PEEK 22600,200
5260 FOR #=1 TO 20
5270 LET #1R=22604: PEEK 21,20-17:0: NEXT 4
5280 BORDER 0: PAPER 0: BRIGHT 0: CLR
5290 FOR #=2 TO 11: PRINT AT 4,0: PAPER #1
  : "E" : NEXT #
5300 PRINT AT 4,4: PAPER 0:"OH NO! YOU'RE FBI
  LER"AT 8,4: THE ATTITUDE PEOPLE"AT 10,4:"M
  OM FROM EVERYTHING"
5310 PRINT AT 21,0: INK 7: FLASH 1:" HIT A NE
  Y TO BE TRUSTED AGAIN"
5320 FOR #=1 TO 200: NEXT #: PAUSE 0: PAUSE 0
  : GO TO 2
5330 REM INSTRUCTIONS
5340 LET #1R=0: as chief technical officer of
  the FBI, your mission is to relay a secret
  5 coded message over the radio from Part 5
  0: Detect a Captian's patrol stop sailing
  along the river sea.
5350 LET #1R=1: This is done by constantly
  changing the transmitting and receiving 5
  000 on either side of the river.
5360
5370 LET #1R=2: However should your boss or
  another path of an Airplane sometimes the 5
  000 will have been a failure. Good
  Luck"
5380 BORDER 7: PAPER 7: INK 0: BRIGHT 0: CLR
5390 PRINT AT 0,0: PAPER 1: INK 7:" RADIO PEE
  KING" : BY Andrew BIRD
5400 PRINT : PRINT : PRINT
5410 FOR #=1 TO LEN 54
5420 PRINT #10: IF CODE 140: 22 THEN LE
  T #1R=22600
5430 NEXT #
5440 PRINT AT 21,0: INK 0:"PRESS ANY KEY"1: PA
  USE 0: RETURN
5450 REM Graphics
5460 REMOTE: PEEK 22640,75: TO PEEK 22640,75
  : PEEK 22640,75: NEXT 4
5470 DATA 0,0,0,242,226,77,77,220,0,0,0,224,
  100,220,100,220
5480 DATA 0,220,220,0,1,1,77,220,0,0,0,224,25
  4,174,100,220
5490 DATA 15,224,154,224,16,211,224,104
5500 REM Sound
5510 REMOTE: PEEK 22600 TO 22600: PEEK 22600
  : PEEK 22600: NEXT 4: RETURN
5520 DATA 1,0,1,10,0,1,17,10,0,22,210,177,
  200,101,177,200,220,220,140,111,0,220,220
5530 SAVE "RadioPeeK" : LINE 3
  
```

## BRIGHT SPRITES



**Andrew Clarke considers the plight of colliding sprites in the final article of his programming series for the C64**



The sprites on a C64 are equipped with a simple, named feature known as a collision flag. Using this we can find out when a particular sprite hits something on the screen.

Furthermore we can discover if a hit hit another sprite or a background graphic. And when a sprite collides with another we can PEEK a register to see which sprites are involved.

The sprite-to-sprite collision detector register is at location \$1270. If using the variable V, as in the other articles where V = \$1280, then we refer to this as V+30. The sprite-to-background collision detector register is at location \$1278, or V+38.

There are several locations as this we have to read them using PEEK than POKE. The only time it is used to alter the value with location V+36 and V+34 is before you go into a main program loop. Normally they will contain odd values that will give false readings when PEEKed in the program. A simple POKEV+36,0 will do the trick.

Fortunately both registers are automatically cleared when PEEKed. This is helpful in a game with a single sprite that must run for anything else. A simple loop in the main loop like this will be able:

```
INPEERV+36AND11=1
THEN
```

After the THEN statement tell it to GOON or GOSUB as "end of life" routine, or as shown in the previous article on animation and an explosion routine.

The value 1 refers to sprite zero. The table in the first article will tell you how with values. For sprites, combining values will only complete the part after the THEN statement. If both sprites collide. Similarly the V+36 could be replaced with V+38; the rest of the IF THEN statement is completed of the named sprite or sprite hit a background character.

There is no real way that I can see you familiar with these registers. They will only come with practice. The best way is to write a one sprite game and then develop on the idea. My first

ever game was called *Spacemon* (Narbon) and was published in PCW '86. It is of I may be to build) is an excellent example of the use of game a beginner should write.

It concerned a spaceship flying through an asteroid belt. The asteroids were character graphics (\$B8-\$C4) placed at random on the screen. The ship (powered by a FOR NEXT loop) flew across the screen from left to right. The cursor keys controlled up and down movement.

In this case register V+34 was PEEKed to check the collision with background graphics of the ship. If one had taken place then you lost one of your life shields. I spent the party with the intention of getting you down at the keyboard and writing a game of your own. Try it!

Of course this code has IF PEEK THEN statements in time for a one sprite game but when using more sprites you may need to store the value from the register in a variable. This way you can GOON to a routine that will analyze the value and act on it.

Take another game example, the one in the platform and ladder world. You have one sprite as the main character. The other consist of four tower robots, three on the back of your main man, and three directly behind him designed to neglect him.

Now here is a sprite problem to solve. If your main man is a robot he will die if he hits a ball can be well simply give energy and points, and the one will vanish as it passed up. Finally if a robot passes a can nothing will happen. Ponder!

Let us assume it. The main character is the central element at both collisions — with robots and cans. So if a collision happens and he is not involved then we do not need to bother.

The sprites are laid out as follows:

Also note that the robots will pass behind the first can as they have a lower priority rating.

So the main program might contain a line like

```
GO=PEEKV+36ORCO
AND11=1THENGOBOMB
GOON
```

Earlier we checked if Fred was involved. If the value one

FRED (your baby)	applies Zero	value = 1
Fred Cuts 1	applies One	value = 2
Fred Cuts 2	applies Two	value = 4
Fred Cuts 3	applies Three	value = 8
Barbet 1	applies Four	value = 16
Barbet 2	applies Five	value = 32
Barbet 3	applies Six	value = 64
Barbet 4	applies seven	value = 128

colloids (variable analyzer) was COMBOLed then he was obviously involved. If that's three lines for the fuel costs produced no results then clearly the colloids was with a robot — it does this master thinks are a good guess. Therefore we don't need more than one more line which will tell us what happens when Fred hits a robot.

Hopefully these practical examples will encourage you that it isn't that hard. True it is not easy but with time it does come. You may not believe so but I can and even find (almost) as perfect. It really took a few hours of practice a week to get competent.

This is the final article in the series and I also hope that you

have learnt something from B.I. differently of me to avoid responsibilities as I believe they hold up learning.

A good many books are available, and I recommend the software Programmer's Reference Guide for the C64.

Finally, good luck and let's hope we can make excellent examples of what you have learnt in HCW very soon.

This assigns the value from the apply-to-apply colloids register to the variable CO THEN IF THEN statement surely says that if apply zero has an value of 1 contained in CO then COMBOL6000 — where we might have an analysis routine assigned in our program. If the 1 is not there then the colloids

may have been just involving robots and/or fuel costs.

What about the answer? It sounds a little complex but it is really no extension of our first simple apply IF THEN statement, except we no longer need to PEEKV+30 as it is held by CO. So we may say,

```
EVKANDH0 = THEN SC =
SC + (CO PEEKV+31)
PEEKV+31) RETURN
```

This instructs the computer that if apply zero and one have collided (Fred and Fred Cuts 1) then increase the variable SC (which we may store our points score in a game). Now we need to make the coin variable as it has been used. The next game does that by PEEKV+31 with an previous value minus 2. So apply zero is switched off.

For the other fuel costs just clear the value from a 1 to a 5 and a 9 respectively. With a robot having Fred then perhaps you may see the sort of line

```
EVKANDH0 = 1 THEN HLF
= 1 L1 CARBOL6000
RETURN
```

Again an explanation. If Fred had Robot 1 (applies zero and four collided) then decrease FRED's lives (the variable LF) and COMBOL6000, where with the use of instruction we may have a "Death rowner". We could repeat this line four times the most robot as simply forgets the IF THEN part and just have the LF-1 statement. Why?

Earlier we checked if Fred was involved. If the routine (the colloids variable analyzer) was COMBOLed then he was obviously involved. If the three lines for the fuel costs produced no results then clearly the colloids was with a robot — it does not matter which one in most games. Therefore we don't need more than one more line which will tell us what happens when Fred hits a robot.

Hopefully these practical examples will encourage you that it isn't that hard. True it is not easy but with time it does come. You may not believe so but I can and even find (almost) as perfect. It really took a few hours of practice a week to get competent.

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5. BASIC 5.00	5.00	5.00	5.00	5.00	5.00
6. BASIC 6.00	6.00	6.00	6.00	6.00	6.00
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## IT'S A GAME

# It's school geometry for Amstrad owners this week with Dave Ellis explaining the concepts of scaling and rotation

This week it's back to school for some geometry lessons, but don't be alarmed as it's not as bad as it sounds!

We'll use the whole of the screen for the graphics so need the machine and tape as -  
**SCREEN : 65536IN 320,768**  
**DB : DBA/W 190,8**  
**DBA/W 320,180**  
**DBA/W 4,190**  
**DBA/W 8,8**

If you **RUN** the program it will draw a square. Nothing too exciting here — no doubt you've used it often. The main drawback, so it is that you've stuck with a size of 190 pixels. If you want to draw another square of say 150 pixels then you will need to type out another lot of **DBA/W** commands.

A far better idea is to draw a very small square as shown in Figure 1. Starting at 0,0 the co-ordinates are at 4,0 4,4 and 0,4 to complete the square. The size of the square can now be "scaled" as demonstrated in the following program.

```
10 SCREEN 120
20 FOR base = 1 TO 100
30 SCALE = base
40 DBA/W = "scale, x" scale
50 NEXT base
60 DATA 4,4,4,4,4,4,0
```

Clear the screen and **RUN** the program. A small dot will appear. We haven't included the scale part on the **DBA/W**. Add the following line and try again.

```
5 SCREEN 120:120
SCALE = 10
```

Now **RUN** the program again and this time a square of 40 pixels will be drawn (4 pixels "scale" of 10). The first value given in the **DATA** statement, by the way, is the number of x,y co-ordinates. After the scale and **ORIGIN** in line 5 and you can draw any size square anywhere on the screen.

Any shape can be drawn in a similar manner by plotting shapes as a grid as shown in Figure 2. This uses negative co-ordinates as well, and the resulting shape is similar to an egg timer. There are five co-ordinates given to replace line 60 with

```
60 DATA 5,3,3,-3,3,3,-3,3,3,8,8
```

and **RUN** the program again using different scale sizes. Using the same technique any

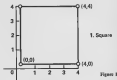


Figure 1

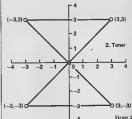


Figure 2

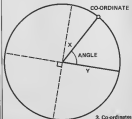


Figure 3

shape could be drawn consisting of as many co-ordinate pairs as needed. Try and draw the shape as small as possible so give as large a range of scale sizes as possible.

Of course it would be better to hold the co-ordinates for each shape in an array and then call a common subroutine passing the values of shape, scale, rotate and origin at the same time. The angle of rotation could also be passed to the subroutine which brings us neatly on to the subject.

### Rotation

Here's where the geometry comes in! Referring to figure 3, the co-ordinates of a point on a circle (or more correctly an ellipse) are found by using the  $\cos$  and  $\sin$  functions:  

$$\text{COS(ANGLE)} * X \text{ ....}$$

$$\text{SIN(ANGLE)} * Y$$

The co-ordinates will be relative to the centre of the circle.

When the lengths of X and Y are equal the co-ordinates will be that of a circle. Try the following program which will demonstrate this:

```
10 DEG = 4.188
20 X = 100 : Y = 100
30 FOR angle = 0 to 359
40 GOSUB 100,200
50 DRAW COS(angle) * X,
  SIN(angle) * Y
60 NEXT angle
```

Line 10 sets the Degrees mode as opposed to Radians. Line 40 sets the ORIGIN each time through the loop, and the result of running the program is to draw a nearly perfect circle.

Try putting a STEP value on the end of the loop in line 30, say STEP 3, and you will see more clearly how the lines are drawn. Changing the values of X and Y will give different size circles of X and Y are equal or ellipses if X is larger than Y then the ellipse will be elongated. If Y is larger than X the ellipse will be the opposite (What's the opposite of elongated?)

Try changing the ORIGIN in line 40 to COS(X) angle, angle and also with a STEP value of 1 as in line 30 for a nice effect. Experiment and I am sure you will find lots of interesting shapes and patterns to draw. The program **NEW SCALE & ROTATE** uses a similar effect to rotate the three shapes in H, C and W I rotated them 50° ORIGIN.

A little more geometry is required here which takes place as



subroutines 1000, 2000 and 3000 to find the new rotated position of the co-ordinate pair. The co-ordinates for the three shapes are read in by lines 30 to 50 and we hold on in a two-dimensional array — points and policy.

Line 90 sets the scale size and the angle of rotate, which in this case is part of a loop. This will rotate the shapes through a series of 40 degree turns.

Line 100 changes the PEN value for each rotation. Lines 110, 120 and 130 set the ORIGIN and the shape number, then CALL subroutines 4000 which calls the other subroutines on its way to drawing the rotated co-ordinates.

Any number of shapes could be held in DATA statements as a number nearer to lines 3000 to 3030, and drawn anywhere on the screen, in any colour, not



and rotation. Experiment with different values and shapes etc and you should soon realise the potential. In fact you may wish you had taken more notice of the teacher now as these geometry lessons as these hold the secrets to many fascinating methods of drawing.

In the next article we will start to look at various ways of making these graphics and text more

```
10 DIM points(200,200):pointy(200,200),newx(1000),newy(1000)
20 MORE 1:CALL 6000:END
30 FOR shape=1 TO 3:READ points(shape,0)
40 :FOR num=1 TO pointx(shape,0)
50 :READ points(shape,num):READ pointy(shape,num)
60 :IF pointx(shape,num)=0 THEN pointx(shape,num)=0.0001
70 :NEXT num
80 NEXT shape
90
100 scale=14:FOR rotate=0 TO 359 STEP 40
100 pen.number=pen.number+1:IF pen.number=4 THEN pen.number=1
110 ORIGIN 100,300:shape=1:GOSUB 4000
120 ORIGIN 300,200:shape=2:GOSUB 4000
130 ORIGIN 500,300:shape=3:GOSUB 4000
140 NEXT rotate
150 END
1000 REM===== CALCULATE ANGLE =====
1010 angle=ATN(pointy(shape,x)/pointx(shape,x)):RETURN
2000 REM===== CALCULATE LENGTH =====
2010 length=pointx(shape,x)/COS(angle):RETURN
3000 REM===== CALCULATE NEW CO-ORDINATES =====
3010 newangle=angle+rotate
3020 newx(x)=length*COS(newangle):newy(x)=length*SIN(newangle)
3030 RETURN
4000 REM===== DRAW ROTATED SHAPE =====
4010 FOR p=1 TO pointx(shape,0)
4030 GOSUB 1000:GOSUB 2000:GOSUB 3000
4040 DRAW newx(x)+scale,newy(x)+scale,pen.number
4050 NEXT p:RETURN
5000 REM===== DATA FOR SHAPES =====
5010 DATA 12,1,0,1,2,3,2,3,0,4,0,4,3,3,3,3,3,1,3,1,3,0,3,0,0
5020 DATA 12,4,0,4,2,3,2,3,1,1,1,1,4,3,4,3,3,4,3,4,3,0,3,0,0
5030 DATA 12,1,0,2,1,3,0,4,0,4,4,3,3,3,3,2,2,1,1,1,3,0,3,0,0
```



Programming hints, books, reviews and ideas for BBC, Commodore, Amstrad and Enterprise owners in this week's music column from Clive Gifford

# MUSIC AND THE MICRO

The C64 and the BBC are both blessed with powerful sound facilities, but so many users complain that while it is easy to synthesize a beep from their machines, producing complex sounds or music is far more difficult. These users may well find Gary Horner's new book an ideal solution.

Entitled, "Micro Music" and published by Papernote in division of Macmillan, this book is written specifically for Commodore and BBC computers. These two machines are seen as odd couple to you, but the author does realize that at the time of writing there were the only two computers that had a large following and high quality sound and music capabilities.

The book doesn't waste time in getting down to the technical details of making sound on your computer. After a short, interesting introductory chapter, the reader is led into the author's first thoughts on sound composition. All areas of sound synthesis are covered with much of the book devoted to the topics of controlling the frequency and amplitude of sounds. The book does take the reader step-by-step through all

the basics of creating sounds, a number of different sound keyboards and a whole host of sound effects, demonstrations and hints.

It is not designed for the beginner to computing, it's more suitable for those with some programming ability and musical knowledge. The rather technical style can lead to the reader becoming a little bogged-down but overall, on 28.50 a copy it's a very good buy if you own a C64 or a BBC. I hope that Mr Horner considers bringing out either a new book or a supplement to his Amstrad, MSX and Enterprise users who tap the musical potential of their machines.



```

100 * INTERLUDE ON 100
110 *
120 EVERY 20 SOUND 210
130 FOR T=000 TO 70 STEP-10
140 SOUND 1,7,20,10
150 NEXT
160 *
170 * PAUSE BEFORE MELODY STARTS
180 *
190 FOR T=0 TO 2000:NEXT T
200 *
210 * PLAY VARIABLE BASS NOTE
220 *
230 SOUND 2,200+T,20,10
240 RETURN
  
```

The Enterprise and the Amstrad take us to the end of the user's journey. Firstly, an Amstrad sound tip and then a brief discussion of how the Enterprise's sound works.

The Amstrad's EMU command can be used to create complex sounds very quickly. The following two-line program produces a working tone which is quite effective.

```

20 EMU=0,5,5,1,10,-5,0,5,1,1
30 SOUND 1,200,200,7,4,1
  
```



the fundamentals of creating sounds. One of the book's complaints, if programs can be the producers of some effects and finally, a large and comprehensive chapter on "Micro Music".

The most useful feature of this book is the number of example programs included in each chapter. Every major point or principle is illustrated by a programming example. The quality of these programs and readers is very high indeed. Buying this book will give the user a guitar, a cello

the melody's pitch, held in the variable T, over. Of course, I had used it in the program variable to line 190 as well. Then, the two note gets considerably deeper while there is a pause between the playing of notes. It sounded good to I tell you.

With the BASIC statements included, I think that the program explains itself. With this as a programming hint, then to fiddle around with the tone values and maybe replace my melody with your own. This is the best way to improve your understanding of the sound and music commands on the Amstrad and the principle applies with any computer.

The Enterprise is gradually making more of an impact on the computing scene. Its makers speak for themselves and in the sound department, the machine boasts three channels, four voice (three sound capabilities, is the one "Music And The Micro"). It's going into some detail of the Enterprise sound facilities, but just then here's just a brief mention of the much command SOUND followed by up to 10 different parameters. SOUND works in the manner a pitch value.

Unlike SOUND commands based on most of the other popular home computers, the Enterprise's version needs the word PITCH followed by a value — as in the case with the other parameters. The length of a note is controlled by DURATION followed by a number. This may sound confusing but reads in listings with each sound parameter neatly documented making debugging and alterations far easier than usual. An example SOUND command would be SOUND PITCH 40, DURATION 40

If you are a music buff you might consider Yamaha's CX-5M computer to indulge yourself with. Robert Orbin gives his frank opinion of its capabilities

## BEATLES TO BEETHOVEN

In the past year and a half there has been a quiet phenomenal change in the amount and quality of software and hardware for both the new breed of computerised musicians and the musically-savvy computer hell. Most of this new software and hardware is for the BBC and C164. At computer, both of which were listed in their respective launches because of their musical capabilities.

A little while ago, however, there emerged the Yamaha CX-5M music computer, a computer with enough potential to completely outdistance both the other machines. It is not a cheap computer, indeed it costs many people have expressed doubts as to whether or not it will reach a wide enough section of the public to be economically viable.

From the outside it looks very much like another member of the ever-growing MIDE family of computers. It has a two-tone brown exterior, and then gives the computer a superior air from the moment you first use it. It has a cartridge slot, a pair of cassette tape and a full length tape bar. In fact the only real difference between its keyboard and most others is a blank key that can be used for sounds when typing a foreign language.

The sides of the computer are rather boring, with only the joystick, controllers, and numeric keypad. The major difference is the very ordinary looking the sockets, marked "MIDI in" and "MIDI out". These two sockets are a realisation.

Inside the computer there is a fully-fledged synthesiser just waiting to communicate through MIDI with the whole world of MIDI-compatible instruments. MIDI (the Musical Instrument Digital Interface) allows a vast number of synthesizers and percentage machines to send digital information to each other.

Upon entering the command CALL MIDE:K you will have introduced perhaps the most powerful music computer on the market. The internal system has a repertoire of 46 predefined voices which can be accessed via the synthesizer menu and played using either

the computer keyboard, or one of the two musical keyboards available: a 44-note keyboard costing £15 at the 49-note keyboard which costs £16. Either keyboard can be split in any point to use two voices at once.

The great strength of the computer is the fantastic quality of its sound. It uses a new method of synthesising sound developed by Yamaha and used in both their DX-7 and DX-9 synthesizers. It works by using a frequency-modulated wave and overlaying it with another wave containing the instrumental information.

Among the 46 pre-programmed voices are such things as the dramatically pulsing harp and harpsichord, the more spread sounds of instruments such as the flute and the organ. These of course there are the accurate precisely sounds like the synthesizer, strings and the lead chords. All the voices, even the less exciting ones, are remarkably good.

Another development is the ability to play up to eight notes at a time. Compared to the three of both the BBC and the C164 (this gives you some idea of the vast range the CX-5M possesses) I feel that the CX's rhythm capabilities, for a computer of such potential, are little, is why the best. Even the most basic of music computers would probably be capable of the same output. The CX-5M is, however, able to record up to 2000 notes at a time and then play them back.

The software for the CX enhances it even more and in the moment there are four available. They are:

A working ROM, costing £11, enables you to simplify the business of altering the pre-programmed voices and programming new ones. Without this piece of software making those changes would be a nightmare, as they are less.

Each sound consists of one or more integrated parameters, indeed even with the working ROM the task is still not easy and it requires a great deal of practice to work out how each parameter affects the sound and the other parameters. The program is valuable in that it shows you what is changing on a graphical display and gives

with a comprehensive, but sometimes confusing, 40-page manual.

The second ROM will be the most used by the casual user. This macro-ROM, also £11, allows you to play back up to eight different parts, using up to four different voices at each which can be either the pre-programmed voices or voices loaded from tape. The program allows the user to add up to 16 new sounds to the ROM to fully control the synthesizer. It is also capable of defining new rhythms for use along with the pre-programmed rhythms. The program does, however, reduce the already limited ROM of ROM to 20.

The third ROM is the Computer and will have greater appeal to the musician than the general user. It allows you to compose on screen, using either the musical or computer keyboard, a 16-part musical score which will be displayed as full musical notation, including dynamics, on the screen. This score can then be played back on either the internal synthesizer or a MIDI-linked instrument. The music produced, if used with the dynamics, is absolutely breathtaking. It actually sounds like a human playing.

The fourth and final ROM is a very useful piece of software, if you own one of the Yamaha DX-7 synthesizers, because it allows almost complete compatibility and inter-programming, making a very powerful system indeed.

### To conclude

The main strength of the CX is the quality of its sound and its MIDI interface. It should be of interest to both the musician and the computer buff. It will be an extremely good educational tool when other software is available.

Although there are a couple of disappointments, the system and the memory space both the music ones, however, it is an extremely good find for the computer enthusiast in music, especially if you have an instrument from the Yamaha CX range already. Price: £449.

Manufacturer: Yamaha/Australia

Address: 1 Mount Ave, Mount Eden, Nelson-Kyren M11 122



## Watson's Notes 1 & 2 First Steps in BASIC & Exploring BASIC

These two books, part of a series of six, are new products from the ISI Watson stable. This company has identified the fact that with the explosion in the computer market there would be an accompanying demand for texts teaching all aspects of programming. After preliminary forays into machine code and BASIC, they have produced the highly coloured series.

Rather than produce a master volume covering IBM, this is a series of six books each covering 1285 topics, more precisely. Volume 1, First steps in BASIC, gets the student used to the machine by going through exercises on the keyboard. This includes using the screen editor to alter text, column and repeat field operations. This is then reinforced with how to use the machine as a graphics mode to perform calculator type exercises. The final section of the book starts to simply programme and in such a way that the reader can follow the examples and experiment.

Exploring BASIC volume 2 continues the process of developing programming skills and examining the features of BASIC. The material covered are loops and variables with graphical routines to demonstrate them.

Both volumes are clearly laid out with plenty of examples to try and help, revision. The language is gentle and should be acceptable to most beginners.

Overall I got the distinct impression that the material covered in each book was rather on the cheapside. While each volume is cheap in itself, I feel that the quantity of material was such that the value for money is less than other more comprehensive works. The other books in the series cover further areas of BASIC, graphics and more advanced concepts.

Overall they are well made books which are a little overpriced. I suggest you look at these and the opinions before buying. A.W.

Price: £2.95

Publisher: Clarendon Publishers Ltd

Address: Sandhill Way, Bath PL, Bath St, Bristol, Herts



## Peaks and Pokes Commodore 64

This book is a bit of an oddity which cannot be placed readily into the normal categories. While being a conversational manual, it is more of a reference work providing a wealth of information.

We all know the little whistles, whistles, whistles and when given which people come up with from time to time. The author of this book has collected a mountain of such items and condensed them with information of a more substantial nature.

It's difficult to give a thumb and slash of the contents, but suffice to say it covers sound, graphics, sprites, machine code and many other areas. There is some structure to the book but it's rather loose and laid back. The book is then it's aimed at the relative newcomer and so such has great appeal.

Rather than dig through the bits on sound and graphics which are rather standard and cover no new ground, I'll deal with the harder bits. From the above you forward, it's clear that the author has given great thought to the book. A nice example is the provision of two machine code routines for FEEDING and POCKING under the ROM area. Easy to do if you know how, but very handy to most users. There are utilities for many useful operations and countless handy POKEs for just about anything you can think of.

Overall, a great little number which is a worthy addition to any library. A.W.

Price: £3.95

Publisher: First Publishing Ltd

Address: Unit 205, Harpenden Rd., Harpenden PA, Penge, Greater London

## FORWARD 100



## Forward 100

This book is subtitled "Logo and your child: a new way of learning" and sets out to introduce Logo to parents and teachers.

It is a book about Logo — not a book which teaches Logo. The author, Ray Hammond, is clearly a strong supporter of the language and his aim is to far his readers with some of his own enthusiasm so that they will wish all to learn it and teach it to their children — or rather, allow their children to explore it by themselves, with the guidance of adult guidance and help.

The early chapters describe the educational theories behind the development of Logo, and the research which has been carried out to determine its effectiveness as an educational tool. These are followed by explanations of the use of floor and screen turtles, and the application of Logo to the control of games and the graphics. These three are descriptions of several different versions of Logo and the computers on which they are available, and a number of studies which show how Logo has been used in different schools all round the world.

The book is interesting and thought-provoking, but I have considerable reservations about some of the ideas expounded in it. Whether the introduction of cheap computers will actually revolutionise primary education to the extent that his Hammond suggests must really still be open to dispute. If you have children of your own, or work with young children, then do read this book and decide for yourself how important these theories are. N.B.

Price: £3.95

Publisher: Progress Books Ltd

Address: Harpendenworth, Middlesex, England

BOOKS

C64



C64



## Our communications expert,

**Doreen Naylor,**  
brings you the  
latest news on a  
TV programme  
for the disabled  
— in which she's  
a star! Proving that  
telecommunications  
do work the  
actually  
transmitted this  
article  
to us via her  
modem —  
and our printer  
did the rest!

# COMPUTERS IN SOCIETY

**H**OW readers may be surprised to know about the new TV series coming up shortly showing the uses and potential of micro-electronics for disabled people. Originally to be called "Micro-technology and the disabled" it has now been changed to "Web a little help from the chip" which seems more appropriate and has a touch of humour about it! The series of six programmes was prepared by the BBC Community Education Dept and provides the new series of "Music Live".

I am sure my computer buffs will be interested to see how the disabled rely on access technology to enable them carry out a whole new range of everyday activities which used to be tasks for granted. For example, enabling the deaf to use the telephone, people with no arms to write letters and other activities for various degrees of disability.

And of course, yours truly will be featured in the second programme — says my television who is also deaf — demonstrating access back-to-back in communications method used by the deaf. The camera crew spent some five hours filming my telecommunications activities using Televox Gold (Electronic Mail, Frettel, Miforest, back-to-back chat and my "Black Mincem" of miniature modems and so much. I even had to take off the top of my head so they could film the antenna from Comconnet which I use for communications.

You can imagine the chaos in my seven foot square computer room, which the producer labelled "Doreen's Den". My husband kept making sure that the film crew weren't tampering with my paraphernalia although he did seem to spend a lot of time with a young lady TV assistant. After all this, my heart sank when I was told that the footage had been whittled down to just a few minutes!

To simplify the filming back-

to-back, in two separate locations, we borrowed the two modems using a long cable which was passed from my computer room to the lounge downstairs where my son-in-law had his desk and modem system. A good task up his sleeve, with some previous film editing it will appear that we are doing back-to-back communications via the telephone.

The programmes are on BBC2 and scheduled for repeat on BBC1, Monday afternoon, beginning 7th October 1985, and on Sunday mornings from 16th March 1986.

Here's a sneak preview of what's to come.

### Magic Clipboard

The topic of the programme is four-year-old Christopher, taught for severely physically handicapped, and his keyboard, computer programs and controls which enhance his letters and give him full independence.

The programme also includes the Telephone Exchange, run by Royal National Institute for the Deaf, which enables the deaf with access/terminals to convey messages to hearing parties without direct/terminals.

### Communicating

This concentrates on how the speech-impaired communicate using synthetic speech, print or visual displays. It makes learning to read and write English easier for deaf children and helps them to speak more clearly. It also shows how deaf people can use the telephone, and how the blind can read, take notes and use electronic mail etc.

### Learning

This programme deals with how hardware and flexible matching software help in educating visually handicapped children to produce and write work, and the learning process involved in Braille for the blind.

### Getting About

Here we learn about how the mobility of a wheelchair is improved by the use of the 'chip' which can also enable blind people to know which bus is coming, and where, with 'talking bus-stop'.

### Working

This covers how light-touch keyboards and word-processing programs can provide jobs for physically handicapped people who work in offices or from home and shows how computers with synthetic speech feedback to read documents, make jobs possible for the blind.

### Inviting

This details the different types of aid being provided for the disabled, an area in which Britain leads the world.

BBC are running a World Tour exhibition, which I took advantage of whilst it was at York. The main exhibition building known as 'The Crystal Arcade', designed by C.A.B., is unique. I strongly recommend anyone interested in computers to try and see the exhibition. I found it very interesting, covering to a deep a wide range of micro-technology subjects. Letters, graphics, computers etc. At one stand they demonstrated a speech processing program which helps deaf children to communicate easily with hearing people.

I watched numerous hearing people trying out the equipment with much success. However when I tried one the new 'talking' technology I was surprised to see how little control I had on the patches of my voice. What that feeling has been available in my school days, I am positive that my speech would be more readily understood. The demonstrator asked me how I learnt to speak, and I told him of my precomputer days in speech training which consisted of using inflated balloons and paper strips and the teacher made me hold a balloon which enabled me to feel the vibrations produced when we spoke and a strip of paper was held in front of my mouth which moved when one pronounced the letter 'p' etc etc, those were the days!

### By the by . . .

I have recently acquired Auto Dial/Answer board for my Magnavox Modem and hope to give you an assessment of it as soon as I receive the auto answer software.

Time and date of transmissions are as follows:

TITLE	BWEE	TIME
CHRISTOPHER'S MAGIC CLIPBOARD	Aug/Mch	7.40pm
COMMUNICATING	Sept/Oct	7.10pm
LEARNING	Sept/Oct	7.10pm
GETTING ABOUT	Sept/Oct	7.10pm
WORKING	Sept/Oct	7.10pm
INVITING	Oct/Oct	7.10pm

## RON COMPLEX



**Ron Complex is all trussed up and nowhere to go in this week's upside-down instalment of our micro-mystery serial.**

Ron had always said he would do his job standing on his head. Now he started to prove it. For a few seconds he tried to focus on the floor of his ground hut but everything went black.

When he came to the world was still upside down. "Welcome to the Kravis Club Mr. Complex," said a voice in smooth air talk.

"Pleasy tone of welcome. What's with the monotonous intonation?"

"You will find that in the Kravis Club we do things a little differently, Mr. Complex."

"Say how do you know my name?"

"While you were taking a nap we took the liberty of improving your pockets. It was very foolish to leave your Tuffie Club life membership card on your person."

"You'd better be careful with that, I need no help to get in heavy traffic."

"It's quite safe. Yes, however, not in a rather dangerous predicament. So dangerous that if you do not cancel your upcoming

we will make sure you have an accident."

"I've been threatened by better people than you — whoever you are."

"Ever curious eh, Mr. Complex. Well I shall tell you who I am. My name is Dr. Demarco, founder member of the Kravis Club."

Ron couldn't see the doctor's face but he would know his footsteps anywhere. The doctor was wearing one black, floppy and a red cap on his head.

"Just tell me one thing, why are you trying to find up the world's computer?"

"It's so obvious Mr. Complex. Many years ago I decided that life was becoming too dull for too easy. When people avoided me a greater element of difficulty in their lives to make them happy. And computers were to blame for making everything so simple. So computers have to be dismantled. It's an even bigger interest, isn't it?"

Ron gasped. "Of course you do," said the Doctor. "So I've been working to create a more complicated world. You see even common everyday things

can be more complicated. Have you ever read my book "1000 Ways to Find an Egg?"

"I can't say I have."

"Pay. It's an exciting read."

"Be you responsible for putting all the bugs in the world?" asked Ron.

Dr. Demarco said nothing. "And what about the B.C.W.C?"

"The what?"

"The Random Code Word Construct?"

Dr. Demarco trembled when Ron said a random Demarco said, "What steps we are taking to dismantle the computer's memory are classified. We will let you off with a warning this time Mr. Complex but if we hear even a whisper that you are working for them on on, you will be sorry. Show Mr. Complex our will you?"

The door closed tightly and Ron looked himself right way up as the outside again. Mrs. Kravis ran across the street and screaming under the ropes. "Do you always get into scrapes like this?" asked Ron.

"It's all in a day's work here," said Ron. "Stay in touch, I've got to find a phone." At Ron set off down the street to find the phone getting recognized with his toes. Above his head a strange contraption hovered silently and followed him to the nearest phone booth.

Marko put the phone down, believe said but there's a machine called a B.C.W.C. showed Ron down the phone.

"Ah, I see," said Marko, wagging his joystick to demonstrate his intelligence and into a better position to see Ron. "Well you'd better go over to Markovian's right away and tell me about it. Meet me at elevator number nine."

Marko put the phone down and perched the pencil towards the homework writing. The screen on which he had been watching Ron went blank.

Marko studied weekly.

Ron rushed into the lobby of Markovian and passed the screen on his number nine. Ron left as if he was being watched. He heard the lift door open behind him and took a very heavy breath as he fell into the lift shaft and felt himself reaching maximum velocity after a few seconds he thought, "This is the darkest lift shaft I've ever taken down. I wonder if it's the deepest."

Next week Part 6: It's a long way down.









# RUPERT



# RUPERT

**T**his year Rupert celebrates a very special anniversary and as part of the anniversary, Quaker's are offering HCW readers a limited package of Rupert from the last three winning raffles pulled from the hat will receive a copy of Rupert and the Toymakers party, Quaker's first Rupert magazine in the world of software for the Spectrum and C64, plus an authentic yellow Rupert scarf and a copy of the anniversary Rupert annual to be published in November.

Twenty-two winners up will receive a copy of Rupert and the Toymakers Party, making a total prize value of over £200. Rupert has been entertaining children of all ages at his various trips for decades but Rupert and the Toymakers Party is his first outing on the home scene. There isn't a screen for Rupert to explore while flapping his way through the Toymakers castle to where his friends are waiting to start the party.

To be there Rupert has to collect the invitation cards that have been posted to the walls of the castle corridors. He can't move on to the next level until he has picked up all the cards he

can find. Every level poses the new challenge problems and the way he finds out his route may help him on his arrival at the end party. There are four different raffles that Rupert can use to reach the top and end.



## Answers to the Rupert Competition

Answer the six questions in the Rupert quiz below and post your answers directly to the Quaker. Post to: Rupert Competition, Quaker Computing Works, Box 1, Croydon, Surrey, London, CR8 3AB. The closing date is 15th July 1985. The first prize is a limited edition Rupert and the Toymakers Party computer game which includes a Rupert scarf and a Rupert annual.

1. How old is Rupert?
2. What happened when Rupert was 10?
3. How many horizontal stripes are there on Rupert's trousers?
4. What colour is Rupert's shirt?
5. What is Rupert's girlfriend?
6. What goes Rupert love!

## The rules

1. Winners will be selected from envelopes of Quaker Ltd, Quaker Computing Works and Quaker Publishing Ltd, Box 1, Croydon, Surrey, CR8 3AB. The winners will be selected from the envelopes of the winners of the raffles.
2. The first prize is a limited edition Rupert and the Toymakers Party computer game which includes a Rupert scarf and a Rupert annual.

Rupert Competition	
Easy Enigma	
Name	
Address	
Answers	
1	
2	
3	
4	
5	
6	
I am a Quaker/C64 owner	
<p>Quaker Computing Works Ltd, Box 1, Croydon, Surrey, CR8 3AB. The closing date is 15th July 1985. The first prize is a limited edition Rupert and the Toymakers Party computer game which includes a Rupert scarf and a Rupert annual.</p>	

# TOP 20

Compiled by  
*Gallup*



# SOFTWARE

Fortnight Ending August 13, 1985

## Up and Coming

Way of the Exploding Fist is back at the top following the launch of the Amstrad version and Big Bucks is number three (looks as if he might have to be awarded with being just a contender).

Frankie Goes to Hollywood are making a bid for total domination of the world's charts by going straight in at number 1.

Big numbers this week include Pole Position continuing up the chart 29 places to number 11, Rod Moon leaping 27 places to number 20 and Break Thru jumping 15 slots to number 13.

New names in the lower reaches of the chart are Homomorphosis, from Mastertronic, Highway Emergency from Yentis, Short's Run from Festival and US Gold's Downy Ark Series Back.

Rank	Weeks on Chart	Title	Developer	Amstrad	Atari	Commodore	MSX	PC	SGS
1	1	Way of the Exploding Fist	Melbourne House	*	*	*	*	*	*
2	1	Hypersports	Imagine	*	*	*	*	*	*
3	1	Frankie Goes to Hollywood	Elite	*	*	*	*	*	*
4	1	Soft Ark	Verano	*	*	*	*	*	*
5	10	Frankie Goes to Hollywood	Crest	*	*	*	*	*	*
6	1	Elite	Acornsoft	*	*	*	*	*	*
7	1	Big Bucks	US Gold	*	*	*	*	*	*
8	1	Big Bucks	Verano	*	*	*	*	*	*
9	1	Acornsoft	Mastertronic	*	*	*	*	*	*
10	1	Frankie Goes to Hollywood	Mastertronic	*	*	*	*	*	*
11	1	Pole Position	US Gold	*	*	*	*	*	*
12	1	Jet Set Willy 2	Software Project	*	*	*	*	*	*
13	1	Break Thru	US Gold	*	*	*	*	*	*
14	1	Demolition	Alphacore	*	*	*	*	*	*
15	1	Pole Position 2	US Gold	*	*	*	*	*	*
16	1	Dynabook One	Mastertronic	*	*	*	*	*	*
17	1	Cauldron	Palco	*	*	*	*	*	*
18	1	Downy Ark	US Gold	*	*	*	*	*	*
19	1	Downy Ark	Verano	*	*	*	*	*	*
20	1	Rod Moon	Level 9	*	*	*	*	*	*

SPECTRUM

BBC

COMMODORE

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Top Ten

1. Frank Goes to Hollywood
2. Hypersports
3. Soft Ark
4. Frank
5. Frank Goes to Hollywood
6. Jet Set Willy 2
7. Break Thru
8. Demolition
9. Pole Position
10. Pole Position 2
11. Jet Set Willy 2
12. Break Thru
13. Demolition
14. Pole Position
15. Pole Position 2

Top Ten

1. Frank Goes to Hollywood
2. Hypersports
3. Soft Ark
4. Frank
5. Frank Goes to Hollywood
6. Jet Set Willy 2
7. Break Thru
8. Demolition
9. Pole Position
10. Pole Position 2
11. Jet Set Willy 2
12. Break Thru
13. Demolition
14. Pole Position
15. Pole Position 2

Top Ten

1. Frank Goes to Hollywood
2. Hypersports
3. Soft Ark
4. Frank
5. Frank Goes to Hollywood
6. Jet Set Willy 2
7. Break Thru
8. Demolition
9. Pole Position
10. Pole Position 2
11. Jet Set Willy 2
12. Break Thru
13. Demolition
14. Pole Position
15. Pole Position 2

## Readers hi-score table

Name	Game	Machines	Scores
Leo Thompson	Yulee Pool	Spectrum	21,400
	Lunar Crab	Spectrum	12,620
	Game Game Scanner	Spectrum	42
	Black Ocean	Spectrum	1,500
	Music Music	Spectrum	25,100
Justin Lavett	Yulee	Amstrad	80,000

### Protect and expand

Daniel Russell from Leeds has two more programs for the Ya. 20. The first is a bit program to protect your programs from prying eyes.

POKE 194,190:REM LOCK  
POKE 194,191:REM

RESTORE  
POKE 2130,127:REM LOCK  
POKE 2130:REM RESTORE  
POKE 198,127:LOCK  
POKE 200:RESTORE

And secondly there's a wrapper so let you play a 32 game on a 16K machine.

POKE 84130:POKE 84132  
POKE 84134,3:GOTO 84134

"This can also be used on a 16K Ya. to use unexpanded locations and their pointer," says Daniel.

### Square Route

Back at the computer H.C.W.I has a mazing — C, Down, Right, or Left — which turns you from square to square squares.

If you can find the correct answer for each step then you will be able to form a path which starts somewhere along the top row and ends up moving off downwards. How do you do it? Can you find it?

H	C	W	C	!	!	W	H
C	!	!	W	!	!	C	W
!	H	W	!	!	H	C	W
!	H	W	H	H	H	W	!
H	C	C	W	C	H	!	!
H	W	C	W	C	W	H	H
!	W	C	C	H	W	C	C
H	C	C	W	!	!	W	H

### Solution to last weeks puzzle

A — take every two corners, enter the left side or the right side and then remove the middle sign on the opposite side (Illustration A)

B — either take the 3 middle sides from across the middle (or leave 2 pairs of squares) and make a new square with those three and one of the others or take 2 matches which form a corner and the middle match of the opposite side and make a new square with those plus one of the others (Illustration B)



# READERS PAGE



# Shadow of the UNICORN

## THE FIRST EVER MIKRO-PLUS GAME

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Shadow of the Unicorn is a 120 page illustrated book, 64K of programme, and Mikro-plus interface - all for £14.95

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- Lock-up facility to Microdrive
- Lock-up facility to Tape
- Tape alignment routine for trouble free loading



# RUPERT

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Spectrum 48K  
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